



**WORKING DOCUMENT –  
for Preparation of a  
Biological Evaluation (BE) or Biological Assessment (BA)**

This outline is to serve as a guide for the preparation of average Biological Evaluations or Biological Assessments (BEs/BAs) required for consultation under the Federal Endangered Species Act (ESA). The U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) administer the ESA, and all Federal action agencies must be in compliance. Informal consultation (submission of a BE) is geared to demonstrate to the Services that impacts to *listed* species are *insignificant* and/or *discountable*<sup>1</sup>, and if the Services agree they will write a concurrence letter. Formal consultation (submission of a BA), indicates that the impacts to *listed* species are not *insignificant* and/or *discountable*. In the case of formal consultation, the Services will write a Biological Opinion (BO). While the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch (Corps) requires that applicants prepare BEs and BAs, we encourage applicants or their consultants to first work with the Corps project manager on defining *action area* (note caveats in ***bolded italics*** below).

Applicants should be aware that the Corps requires revisions to the majority of the BE/BA's. As the Corps consults with the Services, new information and new understandings are developed as to the level of detail needed for varying activities. The process, especially in regards to *listed* fish species, is evolving so rapidly that updates from the Corps and the Services are only periodic. For the most recent updates, please see the Corps website <http://www.nws.usace.army.mil/reg/reg.htm>. In between updates, the Corps' only means of dispersing new information is through individual comments on BE/BA's.

**I. Project Description:**

- A. Project Location:** City, county, State, township, range and section number. Provide vicinity maps.
- B. Project Description:** Describe the proposed project (briefly), the project purpose and the methods and timing of construction to be employed in building the project (in detail). The idea is to identify both temporary and permanent actions that could affect the species or *critical habitat* in sufficient detail to allow an assessment of potential impacts.

Consider actions such as, but not limited to, vegetation removal, temporary or permanent elevations in noise level, temporary or permanent water quality impacts associated with sedimentation, turbidity and/or erosion, temporary or permanent

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<sup>1</sup> All italicized words have specific definitions under the Endangered Species Act (ESA). Refer to these definitions, not those within other Corps or federal guidance.

channel modifications, temporary or permanent hydrological or hydraulic alterations (i.e. dewatering). Include secondary impacts such as access roads, power lines etc.

Provide project drawings. In some cases it is useful to provide drawings showing the location of the staging, access, detours, and work corridors associated with the construction activity.

**C. Construction Technique:** Address the following items:

- Construction Sequencing:
- Site Preparation:
- Equipment Used:
- Materials Used:
- Work Corridor:
- Staging areas and equipment wash outs:
- Stockpiling areas:
- Running of Equipment During Construction:
- Soil stabilization:
- Clean-Up and Revegetation:
- Project Timing:
- Duration of Construction:

***Common mistakes:*** Common mistakes in the Project Description and Project Construction include:

- Addressing only the project description and not the project construction
- Describing an aspect of project construction and then not addressing the associated impacts of project construction under “*Effects of the Action*”.
- Failure to discuss temporary impacts such as detours, temporary road accesses, temporary clearing for staging areas, construction areas, and dewatering.
- Failure to identify the location of borrow sites or disposal sites.
- Failure to discuss construction sequencing and timing of construction.
- Failure to discuss methods of clean-up, disposal, and/or revegetation.
- Failure to discuss mitigation areas (plans) that may be required through the Corps, state or local regulations (i.e. wetland mitigation areas).
- Referring to “Best Management Practices (BMPs)” and/or “Temporary Erosion and Sediment Controls (TESC)” without stating each BMP or TESC under *Conservation Measures*.
- Referring to construction or revegetation monitoring without providing the monitoring plans with the BE/BA.

- II. Action Area:** The *action area* includes not only the activity proposed within Corps jurisdiction but also all *interrelated and/or interdependent* activities. The *action area* must include the project area and all the areas surrounding the activity proposed in Corps jurisdiction up to where effects will no longer be felt. All potential *direct* and *indirect*, and short- and long-term effects to the *listed* species and its habitat are included. These

impacts vary from species to species. For example, when driving piling, the project area would include the pile being driven and the equipment and barge driving the pile. If *listed* fish and bald eagles occur in the vicinity, the *action area* would include the project area and, among other impacts, the potential water quality impacts to fish through increased turbidity during the pile driving (typically a 25-foot radius around the pile) and the potential noise impacts to bald eagles from the pile driving (a radius of 1 mile around the pile).

*Interrelated activities* are those activities that are a part of the activity in the Corps jurisdiction and depend on the activity in the Corps jurisdiction for its justification. The *interrelated activity* may be proposed by the applicant or a separate entity. For example, a weir is being placed in a stream and wetlands, changing the stream into a pond. Although not proposed by the applicant, an adjacent property owner installs an irrigation pump in the pond. The irrigation pump is an *interrelated activity* and must be addressed in the BE/BA. *Interdependent activities* are those activities that have no independent (separate) utility apart from the activity in Corps jurisdiction. A new boat house in the uplands is being constructed along with a new pier. The boat house is an *interdependent activity* because it does not have independent (separate) utility apart from the pier. It is often easier and less complicated to discuss *interrelated* and/or *interdependent activities* together. However, be sure to identify all potential *interrelated* and/or *interdependent activities*.

***We recommend that you coordinate with the Corps Project Manager to help define the action area for your proposed activity, especially linear projects.***

***Common mistakes:*** Common mistakes in the *action area* include:

- Failure to address *interrelated/interdependent activities*.
- Failure to define the construction access areas (temporary and permanent and both in-water and uplands), staging areas, washout areas, and work corridors.
- If defining potential area of effect for short-term impacts (i.e. water quality), failure to provide a justification or citation for the defined area of effect.
- Failure to include mitigation areas that may be required through Corps, state or local regulations (i.e. wetland mitigation).

**III. Species and Habitat Information:** Identify each *listed* or *proposed* species, including terrestrial species, in the *action area*, and indicate whether or not there is *designated* or *proposed critical habitat*. To determine what *listed* or *proposed* species may occur in the *action area*, contact:

US Fish and Wildlife Service (USFWS)  
Endangered Species Division  
510 Desmond Dr., SE # 102  
Lacey, WA 98503-1273  
(360) 753-9440  
<http://endangered.fws.gov/index.html>

National Marine Fisheries Service (NMFS)  
Habitat Conservation Branch  
510 Desmond Dr., SE # 103  
Lacey, WA 98503  
(360) 753-9530  
<http://www.nwr.noaa.gov>

For Central and Eastern Washington:

U.S. Fish and Wildlife Service (USFWS)  
Post Office Box 848  
Ephrata, Washington 98823  
(509) 754-8580  
ATTN: Mr. Greg Kurz

- A. Species Present:** List all federally *listed* or *proposed* species present in the vicinity of the project, stating their listing status (threatened or endangered) and if there is *designated* or *proposed critical habitat*.
- B. Species Utilization:** Describe how the *listed* species is currently utilizing the *action area*, such as spawning, breeding, rearing, over-wintering, or travel corridor (migration). Discuss the species status in the *action area* and range-wide. If known, provide a short discussion on how the species historically utilized the area. Do not include detailed life histories. Depending upon the scale of the potential impacts and the project's timeline you may elect to include *candidate* species.
- C. Survey Results:** If surveys have been conducted providing information as to the species utilization of the *action area* or similar areas, it is beneficial to reference the surveys and summarize the survey results – discussing when the survey was conducted, and the timing and method of the survey as well as the results. Depending on the scale of potential impacts and the habitat element that might be impacted, the Corps and the Services may require specific surveys to be conducted, with defined timing and protocols. A typical survey required in marine areas is a dive survey to determine presence or absence of eelgrass or other macroalgae.

***Coordinate with the Corps Project Manager to determine what, if any, surveys may be needed for your project assessment.***

***Common mistakes:*** Common mistakes for species and habitat information include:

- Failure to discuss all *listed* or *proposed* species in the *action area*. Often the BE/BA only addresses *listed* fish species and other *listed* or *proposed* species that may occur in the area (i.e. birds, mammals, plants, reptiles, and marine mammals) are forgotten.
- Failure to discuss habitat for forage species.

- IV. Existing Environmental Conditions (Environmental Baseline):** The environmental baseline should paint a picture of the habitat for *listed* or *proposed* species in the *action area* and the amount of degradation that has occurred to date. Describe the present condition of the habitat elements essential for the *listed* or *proposed* species. If the *action area* includes *designated* or *proposed critical habitat* for the *listed* species, describe the *critical habitat* and level of degradation.

For example, if bald eagles nest in the area, a typical concern is the topography – is the project in line of sight of the nest? – or noise levels and human activity – what is the

ambient noise level in the area? For *listed* or *proposed* fish species, concerns may include existing water quality, existing riparian vegetation and cover, availability of forage species (other fish, insects or invertebrates).

For a list of habitat elements essential for *listed* or *proposed* salmonids in freshwater habitats, refer to the Pathways and Indicators developed by NMFS in the NMFS' "A Guide to Biological Assessments," revised March 23, 1999, and the FWS' "A Framework to Assist in Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Bull Trout Subpopulation Watershed Scale," February 1998. To date, NMFS has not finalized a matrix for marine/estuarine waters. Do not include a table or matrix for marine/estuarine waters since quantitative criteria have only been approved for freshwater systems.

**Common mistakes:** Common mistakes in the environmental baseline include:

- Failure to address forage species habitat as well as *listed* species habitat elements.
- Extensive discussion on aspects of the environmental baseline either outside the *action area* or unrelated to the affected *listed* or *proposed* species.
- Use of a matrix for marine/estuarine waters when a matrix does not exist.

**V. Effects Analysis:** Describe the *direct* and *indirect* and secondary effects of the action on the protected species and *critical habitat* within the *action area*. *Direct* and *indirect effects* have very distinctive meanings under the Endangered Species Act (ESA). These are not the same definitions as under the National Environmental Policy Act (NEPA). *Direct effects* under ESA are defined as "effects that may result from the project that would directly affect the species". *Indirect effects* under ESA are defined as "effects that may result from the project that would occur later in time." For example, with a bulkhead, the *direct effects* may include the construction impacts (i.e. water quality impacts) and the impacts of the immediate existence of the structure (i.e. loss of habitat due to encroachment of the structure on the beach). The *indirect effects* may include erosion of the beach in front of the bulkhead or erosion that is exacerbated on the adjacent properties due to the bulkhead.

Consider the impact to both individuals and the population. Discuss the short-term, construction-related impacts as well as the long-term and permanent effects. With regard to *critical habitat*, depending on the *listed* or *proposed* species, include habitat alterations to essential features such as spawning sites, loss of prey or food sources, water quality and quantity, riparian vegetation, loss of nesting or breeding habitat or cover. Address the timing of the disturbances relative to the life history of the *listed* or *proposed* species or their forage species in the *action area*, particularly nesting or spawning periods.

For both Corps regulatory purposes and ESA, the applicant must avoid or minimize impacts as much as possible. Variations in design or the construction techniques may avoid or minimize impacts to such an extent that impacts to *listed* species are *insignificant and/or discountable*, thereby qualifying the project for "informal consultation" - a much speedier review process. *Insignificant* is defined as "effects that are not measurable or detectable and never reach the scale where "take" occurs." *Discountable* is defined as

“effects that are extremely unlikely to occur.” However, if an individual impact, either in the short- or long-term, breaches the threshold of *insignificant and/or discountable*, then the activity is “likely to adversely affect” the *listed* species or *critical habitat* and the project must go through “formal consultation” procedures – a more lengthy process.

Aim to avoid causing a “*take*” of any *listed* species or degradation of the environmental baseline for those species.

The analysis must include consideration of the *interrelated* and *interdependent* effects of the actions. For the BA’s only, the analysis must also include consideration of *cumulative impacts*. For the purposes of the Endangered Species Act, *cumulative impacts* are defined as all future State, local, or private activities that are reasonably certain to occur within the *action area* of the project under consultation. The analysis *does not* include future Federal activities (including those which would need to be authorized by a Corps permit) unrelated to the proposed action, as those impacts will be subject to separate consultation.

For activities that may impact freshwater habitats where *listed* or *proposed* fish species are likely to occur, discuss and/or provide a matrix for the various environmental pathways and indicators of effect (See reference under Environmental Baseline). Depending on the activity proposed and its location, impacts to consider for *listed* or *proposed* fish species may include but are not limited to:

- Effects of Construction:
- Water Quality:
- Effects of Stormwater Runoff:
- Water Temperature:
- Water Flow:
- Habitat Access:
- Riparian Area/Refugia:
- Watershed Conditions:

**Common mistakes:** Common mistakes seen in the *effects* analysis include:

- Statements of effects with no rationale (i.e. “Impacts to water quality will be *insignificant and/or discountable*” without stating a reason).
- Definitive statements of impacts or degree of impacts with no citation (i.e. Adult salmonids have a tolerance for “x” amount of suspended sedimentation levels above ambient background levels).
- Describing a project aspect or construction method under project description and then not addressing the potential impacts of that aspect or method in the effects analysis.
- Failure to address impacts associated with stormwater runoff and/or increase impervious surfaces.

**VI. Take Analysis:** Assess and describe the potential for “incidental *take*.” *Take* of a *listed* species means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. *Take* may occur directly to individuals of a

species, or via a species' habitat or to *designated critical habitat*. “Incidental *take*” may occur if a species may be harmed or harassed, etc., in the conduct of your work though you intend it no harm. *Harm* is further defined to include significant habitat modification or degradation that results in death or injury to *listed* species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. *Harass* is defined as actions that create the likelihood of injury to *listed* species to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

*Incidental take* is the “*take*” of individuals of a *listed* species that results from, but is not the purpose of, carrying out an otherwise lawful activity. *Incidental take* may be authorized through formal ESA Section 7 consultation. If you do intend to “*take*” species for scientific study or other purpose as part of your action, you must apply to the appropriate Service for an ESA Section 10 permit.

**Common Mistakes:** Common mistakes in the *take* analysis include:

- Writing a *take analysis* when the effects determination for a project is *may affect, not likely to adversely affect*.

**VII. Conservation Measures:** *Conservation measures* are measures that would reduce or eliminate the adverse impacts of the proposed activity, particularly measures to be taken to reduce the likelihood of *take*. The measures need to be as specific as possible. Include a discussion of how construction methods and/or site locations have minimized potential impacts to the *listed* species. These *conservation measures* may include alterations in the proposed activity such as timing restrictions or changes in project features or location which are intended to reduce impacts, or Best Management Practices (BMPs) you intend to implement.

It is essential to spell out the specific measures or BMPs implemented. *Conservation measures* may not simply defer to state or industry standards or guidelines, but must state the specific standard or guideline.

If your project is approved, the *conservation measures* in the BE/BA will become conditions of the Corps authorization. *Conservation measures* need to be worded such that these measures shall be implemented, not that the measures may potentially be implemented if timing, money or other opportunities allow.

**Common Mistakes:** Common mistakes in the *Conservation Measures* include:

- Failure to define *conservation measures* in enforceable language (i.e. using terms such as “may”, “to the practicable extent possible”, “frequently”, etc.).
- Failure to define all the BMPs used (i.e. referring to contractor will implement BMPs).
- Failure to provide revegetation and monitoring plans proposed as *conservation measures*.

**VIII. Determination of Effect:** Summary of impacts concluding with statement(s) of effect, by *listed* or *proposed* species and *designated* or *proposed critical habitat*. Even projects that are intended to benefit the species might have short-term adverse impacts and those must be addressed.

Only the following determinations are valid for *listed* species or *designated critical habitat*:

- *No Effect* (NE) – meaning literally no effect whatsoever to the *listed* species or *designated critical habitat*.
- *May Affect, Not Likely to Adversely Affect* (NLAA) – effects to the *listed* species or *designated critical habitat* are *insignificant and/or discountable*. A determination of “NLAA” would be made for those activities that have only a beneficial effect with no short- or long-term adverse impacts.
- *Likely to Adversely Affect* (LAA) – effects will result in a short- or long-term incidental *take* of the *listed* species or *designated critical habitat*.

Only one finding is made for the species and habitat, even if the project may have beneficial as well as detrimental affects. Therefore, even projects that ultimately benefit the species may be found to have an adverse affect, due to construction impacts.

For *proposed* species, the finding is either *Jeopardy* or *No Jeopardy*.

For *proposed critical habitat* the finding is will or will not *adversely modify* or *destroy critical habitat*.

***The Corps makes the official agency determination. We generally do not consult or request concurrence from the Services for No Effect determinations, though there are exceptions. The Services have the authority to veto a Corps determination – changing a NLAA to a LAA. of LAA to a NLAA. If the Services change the Corps determination, the Corps must accept the Services determination and consult as necessary.***

***Common Mistakes:*** Common mistakes in the Determination of Effect includes:

- Failure to justify a “*no effect*” determination appropriately. (Please see guidance on “*no effect*” determinations on the Corps website <http://www.nws.usace.army.mil/reg/reg.htm>)
- Failure to provide a detailed effects analysis to coincide with the determination of effect. For example:
  - The determination of effect is “*may affect, likely to adversely affect*” but the effects analysis states that impacts are “*insignificant and/or discountable*”.

**IX. References.** Many BE/BA’s either make definitive statements with no reference or cite studies or papers within the text of the BE/BA, but fail to provide full references.



- X. Appendices (as needed):** Such as condensed life histories, mitigation and/or revegetation implementation and Monitoring plans, results of studies, results of water or sediment quality testing, drawings, photos, etc. The Corps will attach detailed life histories, if needed. The detailed life histories are available on the Corps website <http://www.nws.usace.army.mil/reg/reg.htm>

The Services and the Corps find it extremely helpful to have color photos of the existing project site included in the BE/BA, and this can serve to expedite our review of the environmental baseline and impacts.

***Common Mistakes:***

- Failure to include project drawings. The Services do not receive a copy of the application, only the BE/BA.
- Failure to include mitigation and revegetation implementation and monitoring plans referenced in the BE/BA.
- Failure to include, if issued, a copy of the Hydraulic Project Approval (HPA) from Washington Department of Fish and Wildlife (WDFW).
- Failure to include color photographs of the project area.